AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-5. (Canceled)

6. (New) A cache storage system for communicably coupling a host computing device to a switched packet network, the cache storage system comprising:

a small computer system interface (SCSI) that facilitates system communication with the host computing device;

a network interface that facilitates system communication with the switched packet network;

a processing unit that facilitates communication between the SCSI and the network interface, the processing unit comprising a processor and a buffer;

a log disk coupled to the processing unit, wherein the log disk and the buffer are configured as a two-level hierarchical cache such that least recently used data in the buffer is transferred to the log disk before more recently accessed data is stored in the buffer, the data being transferred from the buffer to the log disk when one of: the amount of data in the buffer exceeds a threshold value or the log disk is idle; and

a storage device that receives data from and provides data to the two-level hierarchical cache.

7. (New) The cache storage system of claim 6, wherein the host computing device is configured to send a request to the processing unit via the SCSI.

8. (New) The cache storage system of claim 7, wherein the request is a write request such that in the event that the buffer includes an entry associated with the write request, the entry is overwritten with data associated with the write request.

9. (New) The cache storage system of claim 7, wherein the request is a write request such that in the event that the buffer does not include an entry associated with the write request, data associated with the write request is stored in the buffer.

10. (New) The cache storage system of claim 7, wherein the request is a read request such that data associated with the read request is retrieved from one of: the buffer, the log disk, or the storage device, and forwarded to the host computing device.

11. (New) The cache storage system of claim 7, wherein the request is a read request such that the read request is forwarded to a remote cache storage system communicably coupled to the switched packet network, data associated with the read request being returned to the host computing device via the network interface.

12. (New) The cache storage system of claim 6, wherein the processing unit is configured to receive, via the network interface, a request from a remote cache storage system communicably coupled to the switched packet network.

13. (New) The cache storage system of claim 12, wherein the request is a write request such that in the event that the buffer includes an entry associated with the write request, the entry is overwritten with data associated with the write request.

14. (New) The cache storage system of claim 12, wherein the request is a write request such that in the event that the buffer does not include an entry associated with the write request, data associated with the write request is stored in the buffer.

15. (New) The cache storage system of claim 12, wherein the request is a read request such that data associated with the read request is retrieved from one of: the buffer, the log disk, or the storage device, and forwarded to the remote cache storage system via the network interface.

16. (New) The cache storage system of claim 6, wherein the buffer comprises random access memory.

17. (New) The cache storage system of claim 6, wherein in the event that the amount of data in the log disk exceeds a threshold, a portion of the data is transferred from the log disk to a remote cache storage system coupled to the switched packet network via the network interface.

18. (New) The cache storage system of claim 6, wherein the remote cache storage system is operating at the lowest processing load relative to other remote cache storage systems communicably coupled to the switched packet network.

19. (New) A method for storing data in a cache storage system, the method comprising:

receiving data at a processing unit, wherein the data is sent from one of: a host computing device via a SCSI or a first remote cache storage system communicably coupled to a switched packet network via a network interface;

storing the received data in a buffer;

transferring data from the buffer to a log disk when one of: the amount of data in the buffer exceeds a threshold value or the log disk is idle, wherein the transferred data is the least recently used data in the buffer; and

in the event that the amount of data in the log disk exceeds a threshold, transferring, via the network interface, a portion of the data from the log disk to a second remote cache storage system storage system communicably coupled to the switched packet network.

20. (New) The method of claim 19, wherein the second remote cache storage system is operating at the lowest processing load relative to other remote cache storage systems communicably coupled to the switched packet network.

21. (New) A method for storing data in a cache storage system, the method comprising:

receiving a read request at a processing unit, wherein the read request is sent from a requesting device, the requesting device being one of: a host computing device or a first remote cache storage system communicably coupled to a switched packet network, the host computing device sending the read request via a SCSI, the first remote cache storage system sending the read request via a network interface;

retrieving data associated with the read request from one of: a buffer in the processing unit, a log disk coupled to the processing unit, a storage device coupled to the processing unit, or a second remote cache storage system communicably coupled to the switched packet network;

transferring the retrieved data to the requesting device; and

transferring data from the buffer to the log disk when one of: the amount of data in the buffer exceeds a threshold value or the log disk is idle, wherein the transferred data is the least recently used data in the buffer.

22. (New) The method of claim 21, further comprising in the event that the amount of data in the log disk exceeds a threshold, transferring, via the network interface, data from the log disk to a third remote cache storage system communicably coupled to the switched packet network.

23. (New) The method of claim 22, wherein the third remote cache storage system is operating at the lowest processing load relative to other remote cache storage systems communicably coupled to the switched packet network.